

ABSTRACT OF THE DISCLOSURE

5 A semiconductor laser driving apparatus for driving
a semiconductor laser for directing light to an optical disc
for recording a recording mark on the optical disc based
on a recording current and reproducing the recording mark
recorded on the optical disc so as to generate a reproduction
signal. The semiconductor laser driving apparatus includes
10 a reproduction current generation section for generating
the reproduction current; a high frequency current
generation section for generating a high frequency current
including a high frequency component for reducing
semiconductor laser noise included in the reproduction; a
15 recording current generation section for generating the
recording current, the recording current including a pulse
corresponding to the recording mark and the pulse including
a plurality of multi-pulses; and a current driving section
for amplifying the reproduction current and the recording
20 current. The high frequency component included in the high
frequency current generated by the high frequency current
generation section is enhanced at the time of reproduction,
and the high frequency component included in the recording
current generated by the recording current generation
25 section is enhanced at the time of recording. The
semiconductor laser driving apparatus further includes a
filter for operating so as to attenuate the enhanced high
frequency component included in the high frequency current
generated by the high frequency current generation section
and the enhanced high frequency component included in the
30 recording current generated by the recording current
generation section; and a switching section for switching
the filter on or off so that the enhanced high frequency

TOP SECRET

THE UNIVERSITY OF CHICAGO